

Title (en)

WIDE BANDWIDTH VARIABLE GAIN AMPLIFIER AND EXPONENTIAL FUNCTION GENERATOR

Title (de)

BREITBANDIGER VERSTÄRKER MIT VARIABLER VERSTÄRKUNG UND EXPONENTIALFUNKTIONSGENERATOR

Title (fr)

AMPLIFICATEUR À GAIN VARIABLE À GRANDE LARGEUR DE BANDE ET GÉNÉRATEUR DE FONCTION EXPONENTIELLE

Publication

**EP 3324539 A1 20180523 (EN)**

Application

**EP 17200576 A 20171108**

Priority

- US 201662423224 P 20161117
- US 201715717966 A 20170928

Abstract (en)

A variable gain amplifier includes an input transistor, an auxiliary transistor, an active inductor and an input current replica circuit. The input transistor is arranged for receiving an input signal to generate an output signal at an output terminal. The auxiliary transistor is coupled to the output terminal of the input transistor, wherein a current of the output terminal flows into the input transistor and the auxiliary transistor. The active inductor is coupled to the output terminal of the input transistor. The input current replica circuit is coupled to the output terminal of the input transistor, wherein a current flowing through a portion of the input current replica circuit is equal to the current flowing through the input transistor, and both a current of the active inductor and the current of the portion of the input current replica circuit flow into the output terminal of the input transistor.

IPC 8 full level

**H03F 3/45** (2006.01); **H03F 1/42** (2006.01); **H03F 3/193** (2006.01); **H03G 1/00** (2006.01); **H03G 3/00** (2006.01)

CPC (source: CN EP US)

**H03F 1/42** (2013.01 - EP US); **H03F 3/193** (2013.01 - EP US); **H03F 3/45183** (2013.01 - EP US); **H03F 3/45219** (2013.01 - US); **H03F 3/45632** (2013.01 - EP US); **H03G 1/0029** (2013.01 - EP US); **H03G 3/001** (2013.01 - EP US); **H03G 9/005** (2013.01 - CN US); **H03F 3/45** (2013.01 - US); **H03F 2200/18** (2013.01 - EP US); **H03F 2200/303** (2013.01 - EP US); **H03F 2200/451** (2013.01 - EP US); **H03F 2200/456** (2013.01 - US); **H03F 2203/45208** (2013.01 - US); **H03G 1/0023** (2013.01 - US); **H03G 1/0088** (2013.01 - US)

Citation (search report)

- [X1] US 2009072905 A1 20090319 - DUONG QUOC HOANG [KR], et al
- [X1] US 2008018401 A1 20080124 - DUONG QUOC HOANG [KR], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 3324539 A1 20180523**; CN 108075739 A 20180525; CN 108075739 B 20211109; TW 201820780 A 20180601; TW I641215 B 20181111; US 10236851 B2 20190319; US 2018138883 A1 20180517

DOCDB simple family (application)

**EP 17200576 A 20171108**; CN 201710989479 A 20171020; TW 106137684 A 20171101; US 201715717966 A 20170928